D-4886 Section IV Additional Comments (6-23-15)

3. The erosion must be evaluated by a qualified S.C. licensed professional engineer to determine whether the structural stability of the dam is affected. Follow the engineer's recommendations for repair of this area to prevent further erosion. Contact John Poole at 803-898-4212 to determine whether permits are necessary for the repairs in this area. This is not required if a permit application and plans are being submitted to remove the dam.

4. The seepage must be evaluated by a qualified S.C. licensed professional engineer. A plan must be developed to measure the area of actively flowing seepage (flow rate and turbidity) at least monthly. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly, correlated to the stage in the reservoir at the time of the measurement, and reported to the Department. Based on the measurements, a plan to control the seepage may also be required. This is not required if a permit application and plans are being submitted to remove the dam.

5. The installation of the 8" siphon appears to be a temporary installation with cut-up logs used as supports. You must monitor the dam and associated structures regularly to ensure that the 8" siphon remains operable. Because the installation of the 8" siphon was done as a temporary measure to alleviate an emergency situation, a detailed inspection, as defined in S.C. Reg. 72-1, by a qualified South Carolina licensed professional engineer is required. Based on the results of that inspection, a permit application and plans must be submitted to repair or remove the dam. Submit the permit application to the Permitting Section in Columbia for review (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201).

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 0015 & Hazard Class 1

B. Name of Dam: North Saluda Reservoir

C. Inspection Date (12 / 05 /20 13) & Time: 11:05 a.m.

D. Date of Last Inspection: (11 / 23 / 2011)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Greenville Water System

I. Contact Person (if different from above): K.C. Price, Grady McCombs

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864)271-7833 (KCP)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 50 Pleasant Retreat Road

Address 2 (optional)

City Travelers Rest, State SC Zip Code 29690 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass in good condition

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Riprap in good condition

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? None observed

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? A couple of bare areas, possibly from tractor tracks, were observed approximately 20' left of the left-most concrete channel. Reseed this area as necessary.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? Yes. Continue to monitor the flows from the toe drains through the weir boxes and correlate them to the stage in the reservoir at the time of the measurement. A couple of the toe drains were becoming clogged. The screens should be removed and the drains cleaned out.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, wet areas (not actively flowing) were observed near the toe of the slope, near the left-most concrete channel and near the bottom of the slope, right of the outlet works building, near the tree line. A large area of standing water was also observed directly up from the outlet works building. See Section IV, item 1.

D. Primary Spillway

i. Any visible deterioration of structure? Could not fully inspect

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Not applicable

iv. Is valve or gate present? Unknown

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Could not observe

ii. Describe any deflection or damage observed to the pipe: Could not observe

iii. Visible condition of outlet channel: Riprap channel in good condition. No erosion was observed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Fallen trees were observed in the spillway, midway down. Some logs and shrubs were observed at the entrance. These should be removed.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed

iv. Any visible deterioration of structure's crest? None observed

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None observed

vi. If applicable, any visible leakage below concrete spillway? None observed but could not fully inspect

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? Owner is in process of updating EAP. Copy is to be provided to the Department when complete. The updated version should be submitted to the Department on or before June 17, 2014.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The large area of standing water upslope from the outlet works building appears to have been occurring for an extended period of time because the vegetation was much taller in this area than surrounding vegetation; however, it was not noted on the previous inspection report. A qualified South Carolina licensed, professional engineer must perform an inspection of the dam to determine whether repairs need to be made or additional drains installed to prevent standing water on the slope of the dam. Documentation of this inspection must be submitted to the Department on or before June 17, 2014. If repairs are necessary, a permit application must be submitted to the Department on or before July 17, 2014. Monitor these areas to ensure that there are no changes and that turbid, flowing water does not begin.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 0016 & Hazard Class 1

B. Name of Dam: Table Rock Reservoir

C. Inspection Date (12 / 05 /20 13) & Time: 09:30 a.m.

D. Date of Last Inspection: (11 / 23 / 2011)

E. Location-County/City: Pickens /

F. EQC Regional Office: Upstate Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Greenville Water System

I. Contact Person (if different from above): K.C. Price, Grady McCombs

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864)271-7833 (KCP)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 50 Pleasant Retreat Road

Address 2 (optional)

City Travelers Rest , State SC Zip Code 29690 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and gravel in good condition

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Riprap in good condition

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? None observed

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? The majority of the slope was grass in good condition. Woody vegetation and brush prevented inspection of an area on the right side. Also, large trees were observed to the right of the spillway. See Section IV, items 1, 2, and 3.

ii. Animal activity observed? Yes, holes, possibly animal burrows, were observed. Monitor these areas to ensure that no burrowing animals are present.

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? Yes, an area of sloughing was observed on the right side just beyond where the grass stops and brush is present. See Section IV, item 4. Erosion was also observed along the right side of the spillway. This area should be filled and compacted to prevent further erosion.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? Yes, five toe drains were observed. On the right side, three were flowing during the inspection; the right-most toe drain was not flowing. The right bottom corner of the dam was very wet. Make sure that the right-most toe drain is not clogged and preventing water from draining in this portion of the dam.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, as mentioned in item vi above, the right bottom corner of the dam was wet and spongy. Another wet area was observed approximately 200' to the right of the large trees near the spillway. Continue to monitor these areas to ensure that flows do not increase or become turbid.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Not applicable

ii. Describe any deflection or damage observed to the pipe: Not applicable

iii. Visible condition of outlet channel: Channel in good condition. No erosion was observed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No separate emergency spillway; concrete spillway is primary spillway. See Section III.D above.

ii. Animal activity observed? See Section III.D above.

iii. Any noticeable deterioration in the approach or discharge channel? See Section III.D above.

iv. Any visible deterioration of structure's crest? See Section III.D above.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? See Section III.D above.

vi. If applicable, any visible leakage below concrete spillway? See Section III.D above.

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? Owner is in process of updating EAP. Copy is to be provided to the Department when complete. The updated version should be submitted to the Department on or before June 17, 2014.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The woody vegetation and brush that is present on the right side needs to be cut and removed, and grass cover should be established. A complete inspection could not be performed in this area due to the thick vegetation.

2. The presence of these large trees needs to be evaluated by a qualified South Carolina licensed professional engineer to determine whether it is safe for them to remain in place or whether they need to be removed. Permits may be necessary for removal of trees; contact John Poole at 803-898-4212 to determine whether permits are needed. Documentation of this evaluation must be submitted to the Department on or before June 17, 2014.

3. Bare areas were observed under the large trees. Reseed these areas to prevent erosion.

4. Also, a large hole was observed at the bottom of this area, near the #5 marker. A qualified South Carolina licensed, professional engineer must perform an inspection of the dam to determine whether there are any structural stability concerns in this area. Documentation of this inspection must be submitted to the Department on or before June 17, 2014. If repairs are necessary, a permit application must be submitted to the Department on or before July 17, 2014.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 1129 & Hazard Class 1

B. Name of Dam: Sweetwater

C. Inspection Date (04 / 24 /20 15) & Time: 9:45 a.m.

D. Date of Last Inspection: (02 / 28 / 2013)

E. Location-County/City: Greenville / Marietta

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins (Matt Raven also attended)

H. Owner's Name: Sweetwater Inc.

I. Contact Person (if different from above): Lynn Hendricks

J. Dam Owner's or Contact Person's Phone Numbers:

Home (864) 288 - 5072

Office ( ) -

Other (864-836-2311 (Lynn cabin)

K. Dam Owner's or Contact Person's mailing address:

Address 1 107 McDaniel Greene

Address 2 (optional)

City Greenville, State SC Zip Code 29601 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? A gravel road and grass in good condition were observed.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? A few small bare areas were observed. According to Mr. Hendricks, these were dug out to prevent water from ponding on crest. Monitor to ensure erosion does not occur in these areas.

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition were observed.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? No erosion was observed, but some minor undulations long the waterline were observed. Monitor these areas for erosion.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition were observed. Along the toe above the outlet pipe, large trees (diameter > 4") were observed. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? None observed

v. Settlement or cracks visible in slope? Yes, three areas of sloughing were observed (two were mentioned in previous reports). According to Mr. Hendricks, the sloughing occurred in 1969 as the dam was filling. See Section IV, item 2.

vi. Toe drains flowing? Yes, both were flowing. The toe drain on the left appeared to have some deterioration. Monitor this condition to ensure it does not worsen. If it worsens, then the pipe may need to be replaced.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: A wet area was observed along the right groin and near the toe. According to Mr. Hendricks, this is surface water runoff. Monitor to ensure that water does not become flowing or turbid.

D. Primary Spillway

i. Any visible deterioration of structure? None was observed from the crest; however, only the trash rack was visible.

ii. Is there an obvious need to repair or replace trash rack? No

iii. Any noticeable problems with debris? No

iv. Is valve or gate present? Yes, however, according to Mr. Hendricks, the valve has never been operated.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed but could not fully inspect because of flowing water

ii. Describe any deflection or damage observed to the pipe: Deterioration of the outlet pipe was observed. See Section IV, item 3.

iii. Visible condition of outlet channel: Good with little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Large trees were present in the emergency spillway or at the edge of the spillway. If the trees are located in the spillway, then they will need to be cut and removed and rootballs removed. See Section IV, item 4.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed

iv. Any visible deterioration of structure's crest? None observed

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? Updated EAP was provided by owner on 6/15/15; however, corrections to phone numbers for County Emergency Management and DHEC Regional Office (864-372-3273) need to be made. This was communicated to Mr. Hendricks on 6/15/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? Yes, 6/5/15

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? No, according to Mr, Hendricks, a siphon system would be used to lower the lake level in the event of a possible failure.

Section IV (Conclusions)

General comments and recommendations:

1. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified S.C. licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact David Graves at 803-898-4398 to determine whether permits are necessary.

2. One area of sloughing was approximately 5' wide, started 20' down the slope and extended to the toe, and was located approximately 20-25' to the left of the outlet pipe. The second area was approximately 2' wide, started 1/3 of the way down the slope, and was located approximately 5' to the left of the outlet pipe. The third area was approximately 2' wide, started 1/3 of the way down the slope, and was located over the outlet pipe. The areas, in particular the one over the outlet pipe, should be closely monitored to ensure that they do not increase in size.

3. The pipe must be evaluated by a qualified S.C. licensed professional engineer to determine whether the deterioration of the pipe has caused or could cause issues with safety of the structure and whether the pipe should be replaced or repaired. As part of this evaluation, the pipe must be inspected using a camera or other method to view the inside of the pipe. Permits would be necessary for repair/ replacement of this pipe.

4. Permits may be necessary for removal of the large trees; contact David Graves at 803-898-4398 to determine whether permits are necessary.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 1171 & Hazard Class 1

B. Name of Dam: Lake Lynn at Cliffs Valley

C. Inspection Date (04 / 01 /20 14) & Time: 8:45 a.m.

D. Date of Last Inspection: (03 / 29 / 2012)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Cliffs Valley Community Association (in care of N&H Enterprises)

I. Contact Person (if different from above): Leigh Melsom with N&H Enterprises, Pete Rodgers with Cliffs Valley Community Association

J. Dam Owner's or Contact Person's Phone Numbers:

Home (215-285-8555 (Pete)

Office (864-467-1600 ext. 104 (Leigh)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 5539

Address 2 (optional)

City Greenville, State SC Zip Code 29606 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Some sloughing was observed above the riprap along the entire length. Repairs should be made as necessary to prevent additional sloughing. Monitor this area to ensure the sloughing does not worsen.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds were observed on the majority of the slope. Water-loving vegetation was observed in the areas of seepage described in item vii below. Small bare areas were observed throughout; these areas should be reseeded. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? Some sloughing was observed near the park area near the toe of the slope. Repairs should be made as necessary to prevent additional sloughing. Monitor this area to ensure the sloughing does not worsen.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? Yes, a toe drain on the right side of the spillway channel, approximately 20' from the wing wall was flowing. At the toe, there were significant flows from a toe drain on the left and a small amount of flow from a larger pipe in this area. See Section IV, item 2.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, areas of actively flowing seepage, standing water (2-4" deep in some areas), and soggy surface conditions were observed on the right side of the primary spillway channel from even with the wing wall for the primary spillway to 75-100' down the slope for the entire width of the emergency spillway. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? None observed

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Yes, valve is present.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Yes, possible seepage was observed at the seam around the outlet pipe. This must be evaluated by a qualified South Carolina licensed professional engineer.

ii. Describe any deflection or damage observed to the pipe: None observed

iii. Visible condition of outlet channel: Some erosion was observed at the bottom of the primary spillway channel, where the rocks end. Monitor this area to ensure that the erosion does not worsen.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Woody vegetation was present along the shore and a canoe that was chained to the primary spillway was laying in the channel. The canoe should be moved out of the spillway channel.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? Seepage was observed along the entire length of the discharge channel; see item III.C.vii above.

iv. Any visible deterioration of structure's crest? The concrete crest area is covered with mud, so the condition of the concrete could not be evaluated.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Could not evaluate

vi. If applicable, any visible leakage below concrete spillway? None observed

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

Residence at 2 Laurel Cove Lane

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Large trees were observed along the toe and in the area within 25' from the toe. The larger trees must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

2. There was also another pipe that appeared to be partially clogged in this area, under some rocks. There were no flows from the drain on the right, possibly clogged.

3. Water-loving vegetation was observed in these same locations, indicating seepage/ wet conditions. Flows were observed into the primary spillway channel along its entire length down to the bottom. The seepage must be evaluated by a qualified South Carolina licensed professional engineer. A plan must be developed to measure seepage (flow rate and turbidity) in these areas at least monthly. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 1950 & Hazard Class 1

B. Name of Dam: Finley's Lake

C. Inspection Date (04 / 02 /20 14) & Time: 10:00 a.m.

D. Date of Last Inspection: (03 / 30 / 2012)

E. Location-County/City: Pickens / Pickens

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Drue Bachmann

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 848 Foot Hills Road

Address 2 (optional)

City Greenville, State SC Zip Code 29617 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? A road is in place across the dam.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? Cracks were observed in the road perpendicular to the flow through the dam. Monitor these cracks to ensure that they do not widen. If any changes in the widths are observed, then you should contact an engineer to evaluate them.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed. See Section IV, item 1. Bare areas were observed. Re-seed these areas and monitor to ensure grass is established.

ii. Animal activity observed? Could not inspect because of a fence along the road

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of a fence along the road

iv. Erosion observed on upstream slope? Erosion and some sloughing were observed in the bare areas mentioned in item i above. Repair and re-seed these areas. Monitor to ensure that the erosion does not worsen and that grass is established.

v. Settlement or cracks visible in slope? Could not inspect because of a fence along the road

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? Unpermitted alterations to the outlet pipe and abandonment of original outlet pipe were observed. Could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? Some sloughing was observed but could not fully inspect because of thick vegetation. Monitor these areas to ensure that they do not worsen. If they do, then repairs need to be done; permits may be necessary for those repairs.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? No toe drains observed

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, an area of actively flowing seepage was observed on the left side, near the toe. A plan must be developed to measure seepage (flow rate and turbidity) in this area at least monthly. The dam was also wet and soggy along the toe to the left of the outlet pipe. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? Could not inspect because of a fence along the road

ii. Is there an obvious need to repair or replace trash rack? Debris was observed around the spillway. This debris must be removed. The spillway must be monitored regularly to maintain it clear of debris.

iii. Any noticeable problems with debris? Yes, debris was observed around the spillway.

iv. Is valve or gate present? None seen

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed but could not fully inspect because of flowing water

iii. Visible condition of outlet channel: Good condition with little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No emergency spillway observed

ii. Animal activity observed? No emergency spillway observed

iii. Any noticeable deterioration in the approach or discharge channel? No emergency spillway observed

iv. Any visible deterioration of structure's crest? No emergency spillway observed

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None observed from the crest of the dam. The lake appears to be partially drained. If it will remain at this water level, then you may have your engineer re-evaluate the hazard classification and provide this information to the Department.

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/14/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. Large trees were observed on the downstream slope. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

3. The seepage must be evaluated by a qualified South Carolina licensed professional engineer. Submit the plan for measuring the seepage to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly, correlated to the stage in the reservoir at the time of the measurement, and reported to the Department. Based on the measurements, a plan to control the seepage may also be required.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 1955 & Hazard Class 1

B. Name of Dam: Pickens City Lake Reservoir

C. Inspection Date (04 / 23 /20 15) & Time: 11:30 a.m.

D. Date of Last Inspection: (12 / 09 / 2013)

E. Location-County/City: Pickens / Pickens

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: City of Pickens/ William T. Alexander

I. Contact Person (if different from above): Cory Cox, Bobby Abercrombie

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864-878-5485 (Pickens)

Other (864-898-3146 (Bobby Abercrombie)

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 217 (Pickens)/ 687 Gravely Road (Alexander)

Address 2 (optional)_____

City Pickens, State SC Zip Code 29671 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and weeds were observed. Raw water pump station in place on right side. Bare areas around the pump station must be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? Bare areas were observed on the road on the right side. Monitor these areas and reseed as necessary.

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition were observed on the right side. A small amount of woody vegetation was observed on the right side behind the fence. Grass, weeds, woody vegetation, and trees were observed on the left side. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed on the right side. A possible animal trail was observed behind the wall on the left side. Monitor the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary.

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? None observed on the right side. A few, small bare areas were observed on the left side. These areas should be reseeded and monitored to ensure grass is established.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass was observed on the majority of the slope on the left side with woody vegetation along the toe. Grass, weeds, shrubs, and trees were observed on the right side, primarily along the toe. On both sides, large trees were observed along the walls of the spillway. See Section IV, items 1, 2, and 3.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? No erosion was observed on the right side. Erosion was observed behind the left wall. If this erosion is due to surface runoff, then the surface runoff should be directed away from the wall. A few bare areas were observed on the left side; these must be re-seeded.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? Possible toe drain near bottom of right wall, upstream from low level outlet (same elevation) was observed. If this is not a toe drain, then this area must be evaluated by a qualified licensed SC professional engineer. It may be a hole/ deterioration of the concrete wall. See item vii below.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, actively flowing seepage was observed from the right wall near the crest of the spillway and possibly through the toe drain/ hole near the low level outlet in the right wall. Other areas of seepage were observed on the right and left walls (some areas appear to be wet constantly). See Section IV, items 4 and 5.

D. Primary Spillway

i. Any visible deterioration of structure? The concrete spillway face could not be inspected because of flows; however, there were areas on the face of the spillway where water was catching. See Section IV, items 6 and 7.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Yes, a small amount of debris was present at the entrance to the spillway and should be removed as part of routine maintenance.

iv. Is valve or gate present? Yes, however, according to Mr. Cox, the valve has not been operated in many years and a dive team is scheduled to inspect it within 2-6 months from date of inspection. To ensure safe operation of the dam, all outlets should be functioning properly. See Section IV, item 8.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Not applicable

ii. Describe any deflection or damage observed to the pipe: Not applicable

iii. Visible condition of outlet channel: A complete inspection could not be done because of flowing water. Shrubs and brush were observed beyond the toe of the spillway.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Trees and woody vegetation were observed in the earthen spillway on the left side. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any noticeable deterioration in the approach or discharge channel? None observed but could not fully inspect because of thick vegetation

iv. Any visible deterioration of structure's crest? None observed but could not fully inspect because of thick vegetation

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, updated EAP must be submitted on or before 9/10/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? As discussed during the inspection, the City must develop this plan if the low-level outlet is inoperable (siphons or pumps or other methods).

Section IV (Conclusions)

General comments and recommendations:

1. The thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. A tree management plan must be developed to address the long-term plans for removal of the large trees (>4" diameter). A tree management plan specific to this dam and developed by a qualified S.C. licensed professional engineer must be submitted to the Department. A drawing should be developed showing the zones on the dam and the activities and timeline for each zone. Permits may be necessary for removal of the large trees; contact David Graves at 803-898-4398 to determine whether permits are necessary.

See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2850 & Hazard Class 1

B. Name of Dam: Look Up Lodge (Lake Chinquapin)

C. Inspection Date (04 / 01 /20 14) & Time: 11:20 a.m.

D. Date of Last Inspection: (03 / 29 / 2012)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Look Up Lodge Christian Camp

I. Contact Person (if different from above): Dan Gustafson, Zack Heard

J. Dam Owner's or Contact Person's Phone Numbers:

Home ( ) 864-434-1512 (Zack cell)

Office (864) 836 - 3700

Other (864-430-7481 (Dan cell)

K. Dam Owner's or Contact Person's mailing address:

Address 1 100 Look Up Lodge Road

Address 2 (optional)

City Travelers Rest, State SC Zip Code 29690 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road across dam

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass, mulch, and moss were observed on the majority of the slope. Bare areas were observed throughout the slope. Re-seed these areas and monitor to ensure grass is established. A few large trees were also observed. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Yes, erosion was observed from the crest down the upstream slope in several spots. It appears that flows from the crest are running down the face of the dam. These areas must be repaired, grassed, and monitored to ensure erosion does not worsen.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds were observed on the majority of the slope. Large trees were observed. See Section IV, items 1 and 2. A large tree on the right side of the dam, near the toe, had fallen and pulled up the root ball. See Section IV, item 3.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? The spring box in the right corner has been partially removed. No other alterations were observed.

iv. Erosion observed on down stream slope? Yes, significant erosion was observed near the right groin. This erosion must be evaluated by a qualified South Carolina licensed professional engineer to determine if the structural stability of the dam is affected.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? No toe drains observed

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, areas of actively flowing seepage were observed on the right side, along the toe, from the concrete structure, and from near the water wheel area. Water-loving vegetation was also observed in these areas. See Section IV, item 4.

D. Primary Spillway

i. Any visible deterioration of structure? The top 7' section of the riser was replaced with aluminum CMP in March 2014. See Section IV, items 5 and 6.

ii. Is there an obvious need to repair or replace trash rack? The new trash rack had not been installed. It must be installed immediately, prior to the water level reaching the top of the riser.

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Yes, but, according to Look Up Lodge staff, it is presumed to be non-operational.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed but could not see entire length of pipe and iron bacteria was covering the bottom of the pipe. This bacteria should be removed so the pipe can be inspected on a regular basis.

iii. Visible condition of outlet channel: The metal chute that conveyed flows to the bottom of the channel is in a state of disrepair. Repairs must be made to prevent further erosion of the area below and around the pipe. This must be evaluated by a qualified SC licensed professional engineer. Debris must be removed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Yes, part of a dock was present at the entrance to the spillway. This must be removed.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? No deterioration was observed; however, bare areas were present. Re-seed these areas and monitor to ensure grass is established.

iv. Any visible deterioration of structure's crest? No deterioration was observed; however, bare areas were present. Re-seed these areas and monitor to ensure grass is established.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/10/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

2. Stumps in varying states of decay were observed on the upstream and downstream slopes. These stumps must be monitored regularly. As they decay, the areas should be filled and compacted.

3. The fallen tree must be removed and the area filled in and re-compacted. This area must be evaluated by a qualified South Carolina licensed professional engineer. This was noted in the past inspection report (2012) and had not been addressed.

See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2871 & Hazard Class 1

B. Name of Dam: Cardinal Lake

C. Inspection Date (03 / 27 /20 14) & Time: 10:45 a.m.

D. Date of Last Inspection: (03 / 29 /2012)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Multiple owners; see attached list

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864-292-0465 (Caryl Franckowski))

K. Dam Owner's or Contact Person's mailing address:

Address 1 Multiple owners; see attached list

Address 2 (optional)

City _____, State __ __ Zip Code _ _ _ _ _ - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road with curb and gutter. · A storm drain system was observed in the middle of the dam. It appeared to empty into a concrete flume on the face of the dam; however, the outlet of the pipe could not be located due to thick vegetation. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? Cracks parallel to the direction of flow through the dam were observed in the road, between the storm drain inlets. Monitor the cracks to ensure that they do not widen. If any changes in the widths are observed, then you should contact an engineer to evaluate them.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds were in place for portions of the slope; however, many bare areas were observed. These areas must be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Yes, erosion was observed along the water's edge and on the slope. Monitor this area to ensure that it does not worsen. If it does, then repairs need to be done; permits may be necessary for those repairs.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. See Section IV, items 2 and 3.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, an area of seepage was observed on the left side of the downstream slope, along the toe. Water was also observed flowing under the concrete flume from the storm drain in the middle of the dam; this is an area of possible seepage. See Section IV, item 4.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? None observed

iii. Any noticeable problems with debris? A small amount of debris was observed around the outlet structure. Monitor this area and keep it free of debris.

iv. Is valve or gate present? Yes, locked valve was observed on the left side of outlet structure.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed but could not fully inspect because of flowing water. Seepage was observed at some of the joints inside the box culvert. See Section IV, item 4.

ii. Describe any deflection or damage observed to the pipe: None observed but could not fully inspect because of flowing water.

iii. Visible condition of outlet channel: Some erosion was observed approximately 50' downstream. This area should be monitored and may need to be repaired. The small trees and other vegetation along the wing walls and outlet channel must be cut and removed, See Section III.C.i above.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Not applicable; no emergency spillway

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? Not applicable

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 11/30/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The storm drain system and outlet must be evaluated by a qualified South Carolina licensed professional engineer to determine whether any action needs to be taken to ensure the outlet is not causing unsafe conditions for the dam. This area must be monitored by the owners regularly; follow the engineer's recommendations on maintaining this area.

2. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

3. Large trees were observed on the downstream slope along the toe. The larger trees (in the area extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan should be developed to address the long-term plans for tree removal.

The seepage (along toe on left side, under concrete from storm drain system, and in seams of box culvert) must be evaluated by a qualified S.C. licensed professional engineer. This area must be monitored by the owners regularly; follow the engineer's recommendations on monitoring these areas. If the seepage is actively flowing, then a plan must be must developed to measure seepage (flow rate and turbidity) in these areas.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2873 & Hazard Class 1

B. Name of Dam: Stone Lake Dam

C. Inspection Date (12 /16 /20 13) & Time: 10:30 a.m.

D. Date of Last Inspection: (12 / 09 /2011)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC/ Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Stone Lake Association (according to GCGIS)/ City of Greenville (according to file change of ownership form)

I. Contact Person (if different from above): Neil Tuck (SLA)/ Christian Crear (Greenville)

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864-467-4400 (Christian)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 36 Lake Forest Drive (SLA)/ 206 S. Main Street (Greenville)

Address 2 (optional)

City Greenville, State SC Zip Code 29609 (SLA)/ 29601 (G'ville)

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road across dam. Monitor cracks in the road for any changes.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? Monitor cracks in the road for any changes.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Riprap was observed on the majority of the upstream slope. However, in some areas, ivy was covering the rirpap and prevented a complete inspection. Trees were also observed on the upstream slope. See Section IV, item 1.

ii. Animal activity observed? None observed but could not fully inspect because of fence and vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of fence and vegetation

iv. Erosion observed on upstream slope? None observed but could not fully inspect because of fence and vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of fence and vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds need to be cut. Small woody vegetation needs to be cut and removed. The thick vegetation prevented a complete inspection. See Section IV, item 2. Stabilization needs to be monitored in repair areas.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? Earthwork repairs done under permit issued in 2012 appear to be complete; however, a certificate of completion (COC) has not been issued for those repairs. On or before 9/8/14, submit all necessary documentation for the COC to be issued.

iv. Erosion observed on down stream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? Yes, toe drains were flowing but were partially clogged and buried and need to be cleaned out.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None observed but could not fully inspect because of thick vegetation

D. Primary Spillway

i. Any visible deterioration of structure? Yes, the weir at the primary spillway is deteriorating (bricks are missing and dislodged). To repair this deterioration, you will need to obtain a permit. See Section IV, item 3.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Yes, debris was present at the weir in front of the primary spillway and needs to be removed. A shrub/ tree was also growing into the entrance channel and should be removed because debris could become clogged around it.

iv. Is valve or gate present? No. However, a siphon had been installed during the work done in 2007 but was no longer working and had been disconnected. See Section IV, item 4. If the siphon is the mechanism to lower the lake in an emergency, an alternative method must be identified since it is not operable.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? No

ii. Describe any deflection or damage observed to the pipe: None observed

iii. Visible condition of outlet channel: Significant erosion was observed beyond primary outlet. This area will need to be monitored to ensure that the erosion does not worsen and begin to work back toward the dam itself.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Not applicable, no emergency spillway present

ii. Animal activity observed? Not applicable, no emergency spillway present

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable, no emergency spillway present

iv. Any visible deterioration of structure's crest? Not applicable, no emergency spillway present

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable, no emergency spillway present

vi. If applicable, any visible leakage below concrete spillway? Not applicable, no emergency spillway present

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No. An updated EAP must be submitted on or before August 9, 2014.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Removal of larger trees needs to be evaluated by a licensed SC professional engineer. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

2. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

3. As part of the permit application for the weir, you will need to evaluate the structural stability and hydraulic adequacy of the dam and associated structures. This permit application and associated calculations must be submitted on or before 9/8/14.

4. During the inspection, it was noted that the siphon was not currently working and had been disconnected. However, water was observed flowing out of the siphon outlet. The siphon should be observed to determine whether the siphon only flows when the water level is at or above the bottom of the siphon inlet. If the siphon flows even when the water level is below the siphon inlet, then the inside of the siphon should be TVed to determine the source of the flow through the pipe. An explanation of the source of flows through the siphon must be submitted on or before 8/9/14. A permit application must be submitted on or before 9/8/14 for repair or abandonment of the siphon.

5. The Department has no record of the work done on the dam in 2007. Provide all documentation of this work to the Department on or before 9/8/14.

Preliminary Dam Inspection Disclaimer:

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2886 & Hazard Class 1

B. Name of Dam: Lake Fairfield

C. Inspection Date (12 / 16 /20 13) & Time: 12:45 p.m.

D. Date of Last Inspection: (12 / 09 / 2011)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Lake Fairfield Inc.

I. Contact Person (if different from above): Mike Davis (mhd123@charter.net)

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864) 414 - 5845

K. Dam Owner's or Contact Person's mailing address:

Address 1 110 Shannon Drive

Address 2 (optional)

City Greenville, State SC Zip Code 29615 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass, weeds, and moss were observed on the majority of the crest. A few bare areas were observed near the primary spillway, on the left side. These areas should be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass, weeds, and moss were observed on the majority of the slope. A few bare areas were observed near the primary spillway, on the left side. These areas should be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Some erosion was observed along the water's edge. Monitor this area to ensure that it does not worsen. If it does, then slope protection along the water's edge may be needed.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass, weeds, and moss were observed. A large tree (significantly undercut around it) was observed at the toe of the slope, between the primary spillway and the emergency spillway; other trees were observed along the emergency spillway. See Section IV, item 2.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? Yes, holes and erosion were observed along the emergency spillway and at the bottom of the concrete spillway on the right. Monitor this area to ensure that it does not worsen. If it does, then repairs need to be done; permits may be necessary for those repairs.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, areas of actively flowing seepage were observed at the toe of the slope, next to the right wall and two locations between the primary spillway and emergency spillway. A plan must be must developed to measure seepage (flow rate and turbidity) in these areas at least monthly. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? No visible deterioration of the concrete spillway on right or riser in the lake was observed. However, flows were observed through the low-level outlet pipe even though the water surface elevation was below the top of the riser. See Section IV, items 4 and 5.

ii. Is there an obvious need to repair or replace trash rack? A trash rack was observed on the riser; no problems were observed.

iii. Any noticeable problems with debris? Some limbs were observed in the spillway; maintain the spillway free of debris.

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: Possible seepage into the pipe was observed at the seams. See Section IV, item 4.

iii. Visible condition of outlet channel: No erosion was observed; however, the water surface elevation appeared to be higher than normal and the bottom and sides of the channel could not be observed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No flow was observed through the concrete spillway on the left. As mentioned in previous inspections, yard debris was observed in the concrete portion of the spillway. The spillway must be maintained free of debris.

ii. Animal activity observed? None observed but could not fully inspect because of the leaves in the spillway

iii. Any noticeable deterioration in the approach or discharge channel? Yes, significant deterioration (holes) and erosion were observed in the discharge channel; leaves prevented a complete inspection. Standing water was also observed in the spillway. See Section IV, item 6.

iv. Any visible deterioration of structure's crest? The concrete entrance was falling away, and cracks were visible on the crest.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Unknown if rebar is present

vi. If applicable, any visible leakage below concrete spillway? Holes and standing water were observed at the discharge end of the concrete portion; leaves prevented a complete inspection of this area. They should be removed, so regular inspections of this area can be done.

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? A house immediately below the dam (202 Shannon Drive) was purchased by the County and removed; however, it appears that other houses would still be affected. No change in classification is recommended.

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 10/16/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Access to the right side of the dam was not available. That side of the dam was covered with thick vegetation, including ivy, a deleterious vegetation for a dam, which should be cut and removed. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. The trees must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

3. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2892 & Hazard Class 1

B. Name of Dam: Carisbrooke

C. Inspection Date (12 / 12 /20 13) & Time: 12:15 p.m.

D. Date of Last Inspection: (12 / 9 / 2011)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Carisbrooke Homeowner's Association

I. Contact Person (if different from above): Peter Luciano (pjluciano@yahoo.com)

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864) 386 - 9633

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 1827

Address 2 (optional)_____

City Greenville, State SC Zip Code 29602 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Walking path across majority of crest with grass on the sides

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass was observed along most of the slope. Bare areas were observed throughout the crest; these areas must be reseeded. Trees were observed in the left and right corners. Stumps were visible along the water's edge. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Yes, erosion was observed along the water's edge and to the right of the bench area. The slope armor was deteriorated and buckled. This situation needs to be monitored to ensure that the erosion does not worsen and affect the structural stability of the dam.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. See Section IV, items 2, 3, and 4.

ii. Animal activity observed? None observed but could not fully inspect due to thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect due to thick vegetation

iv. Erosion observed on down stream slope? Yes, sloughing/ erosion (20' x 5' area) was observed on the left side of the dam, middle of the slope, across from the pier. This area should be filled in and reseeded to prevent future erosion.

v. Settlement or cracks visible in slope? None observed but could not fully inspect due to thick vegetation

vi. Toe drains flowing? Yes, a possible toe drain was observed to the right of the outlet pipe (approximately 15' to the right and 5' upslope).

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, a wet area was observed on the left side of the outlet, approximately 10' from the outlet pipe. Also, an area of seepage that was actively flowing (clear) was observed approximately 10' to the left and 20' down from the outlet pipe; this area was significantly flowing. See Section IV, item 5.

D. Primary Spillway

i. Any visible deterioration of structure? No visible deterioration observed. However, according to Mr. Luciano, the siphon does not prime automatically. This issue needs to be addressed immediately. See Section IV, item 6.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Small amount of debris observed around the siphon box.

iv. Is valve or gate present? None seen

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: Could not observe due to flowing water

iii. Visible condition of outlet channel: Good, no erosion was observed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Earthen spillways on right and left sides of dam. No obstructions observed.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed for the left spillway. For the right spillway, erosion was observed at the water's edge.

iv. Any visible deterioration of structure's crest? None observed. Sidewalk in place in right spillway.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 10/9/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? According to Mr. Luciano, the engineering report for the work on the dam includes a detailed list. He will contact the Devenger HOA to notify them of the emergency alert plan.

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. If the trees on the upstream slope have not been evaluated by an engineer, then a qualified South Carolina licensed professional engineer needs to evaluate whether they are safe to remain and develop a tree management plan for the dam.

2. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

3. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

4. Removal of the larger trees must be done in accordance with the engineering report and construction permit issued for work on this dam.

5. The seepage must be addressed in accordance with the engineering report and construction permit issued for work on this dam.

6. Repairs to the air gap can be made without a permit to the Department; however, if more extensive repairs are needed, then a permit may need to be obtained from the Department before the work can be done.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 2893 & Hazard Class 1

B. Name of Dam: Oak Grove Lake

C. Inspection Date (12/12/20 13) & Time: 11:05 a.m.

D. Date of Last Inspection: (4/1/2011)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Greenville County Recreation District

I. Contact Person (if different from above): Don Shuman

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864 676 2180 x.110

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 4806 Old Spartanburg Rd.

Address 2 (optional)_____

City Taylors, State SC Zip Code 29687 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road across dam. Grass on the shoulders.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? Yes, road repair where the outlet pipe was replaced was observed

iv. Erosion noticed on crest? Some bare areas were observed on the shoulders. These areas need to be reseeded.

v. Any visible settlement, misalignment or cracks? None observed. No visible cracks in road repair area.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds observed on most of the dam. Bare areas were observed in the left corner and where the new pipe was placed; these areas must be reseeded. Thick vegetation was also observed in the left corner; this must be cut to allow for complete inspection.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? Yes, the area where replacement of the outlet pipe and portion of dam around the outlet pipe occurred was observed.

iv. Erosion observed on upstream slope? Yes, some erosion was observed in the left corner, just above the concrete erosion protection and midway up the slope. This area should filled in and reseeded to prevent erosion.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. See Section IV, items 1 and 2.

ii. Animal activity observed? Yes, holes, possibly animal burrows, were observed on the right side near the power pole in the corner. Could not fully inspect because of thick vegetation.

iii. Any obvious alterations or repairs made? Yes, the area where replacement of the outlet pipe and portion of dam around the outlet pipe occurred was observed.

iv. Erosion observed on down stream slope? Yes, holes were observed on the right side near the power pole in the corner. Also, a large eroded/ washed out area (approximately 15-20' wide, 4' deep) was observed near the second power pole from the right. See Section IV, items 3, 4, and 5.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation.

vi. Toe drains flowing? Yes, left one. No, right one. No, smaller left one next to outlet pipe. Yes, smaller right one next to outlet pipe.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None observed but could not fully inspect because of thick vegetation.

D. Primary Spillway

i. Any visible deterioration of structure? None observed (new outlet structure since previous inspection)

ii. Is there an obvious need to repair or replace trash rack? No

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Yes

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed

iii. Visible condition of outlet channel: Trees are in place directly across from the outlet pipe; these are being undercut. Also, erosion was observed downstream, parallel to the dam.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No earthen spillway, not applicable

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? Not applicable

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam. Homes still in place immediately below the dam.

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 10/9/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

3. After the vegetation is cut and removed from this area, a qualified South Carolina licensed professional engineer must evaluate this area to determine whether repairs are necessary (filling/ smoothing out, erosion protection, etc.). Vegetation must be maintained at a manageable level so that thorough inspections of this area can be performed on a regular basis.

4. Ruts and uneven ground were observed in the area of repair, at the bottom of the slope. This area should filled in and reseeded to prevent further erosion.

5. A ditch that empties into the large eroded/ washed out area was observed on the downstream slope, near/ along the toe of the dam. The engineer's evaluation should include this area to determine whether additional erosion protection is needed.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 3297 & Hazard Class 1

B. Name of Dam: Lake Caldwell (Camp Old Indian)

C. Inspection Date (04 / 01 /20 14) & Time: 10:15 a.m.

D. Date of Last Inspection: (03 / 29 / 2012)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Blue Ridge Council, Boy Scouts of America

I. Contact Person (if different from above): Matt Kubler

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864) 420 - 4220

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 6628

Address 2 (optional)_____

City Greenville, State SC Zip Code 29606 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass in good condition was observed on the majority of crest. Bare areas were observed on the left end. Re-seed these areas and monitor to ensure grass is established.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? Yes, erosion was observed on the left end in the bare areas. See item i above.

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and weeds were observed. Bare areas were observed on the left end. Re-seed these areas and monitor to ensure grass is established. Large trees were also observed on the left end near the groin. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Yes, erosion was observed in the bare areas on the left end. See item i above. Sloughing was observed along the water's edge. Monitor this area to ensure that it does not worsen. If it does, then slope protection along the water's edge may be needed.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass, trees, and woody vegetation were observed. The woody vegetation on the left side must be cut and removed. Water-loving vegetation was present along the toe. Large trees were also observed on the left end near the groin. See Section IV, item 1.

ii. Animal activity observed? Trails were observe on the slope. Monitor to ensure that these are not animal trails.

iii. Any obvious alterations or repairs made? Yes, repairs were made to the outlet pipe. This area has not been fully repaired. See item iv below.

iv. Erosion observed on down stream slope? Yes, an area of erosion down the slope on the left side was observed; this must be repaired. Also, a large area of sloughing was observed on the left side around the area of the outlet pipe repair. See Section IV, item 2.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? Yes, two toe drains with flows were observed in the middle of the dam. One of the drains would have been under water if Lake Vandiver had been at normal pool elevation. Monitor these regularly to ensure that they do not become clogged.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, actively flowing seepage was observed on the right side, near the groin. Standing water was observed on the upstream side of the gravel road near the outlet pipe repair. Water-loving vegetation was observed along the toe. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? Could not observe; siphon inlets were under water. Only air breaks were visible.

ii. Is there an obvious need to repair or replace trash rack? Unknown if trash rack is in place

iii. Any noticeable problems with debris? Could not observe; siphon inlets were under water.

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed but could not fully inspect because of flowing water

iii. Visible condition of outlet channel: When Lake Vanidiver is at normal pool elevation, the siphons empty directly into that body of water; however, when Lake Vandiver is drained (as it was during the inspection), erosion around the siphons is visible. See Section IV, item 4.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? A picnic table and canoes were observed in the spillway. Maintain the spillway free of any obstructions.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed

iv. Any visible deterioration of structure's crest? None observed

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from crest of dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be provided on or before 12/13/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

2. The erosion must be evaluated by a qualified S.C. licensed professional engineer to determine whether the structural stability of the dam is affected. Follow the engineer's recommendations for repair of this area to prevent further erosion. Contact John Poole to determine whether permits are necessary.

3. A plan must be developed to measure seepage (flow rate and turbidity) on the right side at least monthly. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

4. The erosion around the siphon outlets must be evaluated by a qualified S.C. licensed professional engineer. This erosion may be caused by swirling when Lake Vandiver is at normal pool elevation. Follow the engineer's recommendations for repair of this area to prevent further erosion. Contact John Poole to determine whether permits are necessary.

Preliminary Dam Inspection Disclaimer:

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 3895 & Hazard Class 1

B. Name of Dam: Lake Cunningham

C. Inspection Date (03 / 27 /20 14) & Time: 11:50 a.m.

D. Date of Last Inspection: (03 / 28 /2012)

E. Location-County/City: Greenville / Greer

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Greer Commission of Public Works

I. Contact Person (if different from above): Jeffrey Tuttle or Chuck Barnes

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864-449-4582 (Chuck Barnes)

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 216

Address 2 (optional)

City Greer, State SC Zip Code 29652 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Crest is a concrete weir with flash boards and wing walls, not applicable

ii. Animal activity observed? None observed but could not fully inspect

iii. Any obvious alteration or repairs made? None observed but could not fully inspect

iv. Erosion noticed on crest? None observed but could not fully inspect

v. Any visible settlement, misalignment or cracks? Some cracks were observed in the tops of the walls on both sides. Monitor these areas to ensure that the cracks do not widen.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Upstream slope consists of concrete structure and wing walls, not applicable

ii. Animal activity observed? None observed but could not fully inspect because of water level

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of water level

iv. Erosion observed on upstream slope? Not applicable

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of water level

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Bare areas were observed on the majority of the downstream slope. Monitor these areas and re-seed.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? Yes, erosion was observed behind the wing walls on both sides. These areas must be repaired. Permits may be necessary for those repairs; contact John Poole at 803-898-4212 to determine whether permits are necessary.

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? Not applicable

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, areas of actively flowing seepage were observed in the outlet channel along the right wing wall and from approximately 10-30' below the dam on the right side, just above the normal water level. A plan must be must developed to measure seepage (flow rate and turbidity) in these areas at least monthly. See Section IV, item 1.

D. Primary Spillway

i. Any visible deterioration of structure? Some deterioration of the concrete (cracks, etc.) was observed on the wing walls and above the low level outlets. However, the majority of the structure could not be observed. See Section IV, item 2.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Several trees were observed up against the flashboards and all along the crest of the structure. According to Mr. Barnes, the trees will be removed soon as part of routine maintenance.

iv. Is valve or gate present? Yes, according to Mr. Barnes, the valves are operated 1-2 times/ year as necessary for the water treatment plant operation.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? No outlet pipe, concrete structure with flash boards.

ii. Describe any deflection or damage observed to the pipe: Not applicable

iii. Visible condition of outlet channel: Good, little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No emergency spillway, concrete structure was evaluated below

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? None observed but could not fully inspect because of flowing water

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None observed but could not fully inspect because of flowing water

vi. If applicable, any visible leakage below concrete spillway? Could not inspect because of flowing water

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from crest of dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/3/14

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

2. A thorough inspection by a qualified South Carolina licensed professional engineer is recommended because of the hazard classification and type of structure.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 3983 & Hazard Class 1

B. Name of Dam: Asbury Hills (formerly Methodist Pond)

C. Inspection Date (12 / 06 /20 13) & Time: 12:15 p.m.

D. Date of Last Inspection: (11 / 02 / 2011)

E. Location-County/City: Greenville / Cleveland

F. EQC Regional Office: Upstate Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: S.C. United Methodist Camp and Retreat

I. Contact Person (if different from above): Chris Hulme, Facilities Manager

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864) 836 - 3711

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 150 Asbury Drive

Address 2 (optional)

City Cleveland, State SC Zip Code 29635 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass in good condition. Mulch on the right side near the wedding chapel; this area needs to be monitored to ensure that no erosion occurs. Grass is the ideal cover. A few bare areas were observed that need to be reseeded and monitored to ensure that grass is established.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? Wedding chapel/ seating area constructed on right side of dam. Appears to have been constructed outside of footprint of dam.

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition. Mulch on the right side near the wedding chapel; this area needs to be monitored to ensure that no erosion occurs. Grass is the ideal cover.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? Wedding chapel/ seating area constructed on right side of dam. Appears to have been constructed outside of footprint of dam.

iv. Erosion observed on upstream slope? None observed

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition on most of the slope. Gravel road in good condition toward the bottom. Several bare areas were observed across the face. Reseed these areas to prevent erosion.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? None observed

v. Settlement or cracks visible in slope? None observed

vi. Toe drains flowing? None observed

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None observed

D. Primary Spillway

i. Any visible deterioration of structure? No visible deterioration of the structure was observed from the surface; however, the top portion of the riser containing the trash rack was tilted. See Section IV, item 1.

ii. Is there an obvious need to repair or replace trash rack? May need to be repaired; see item i above.

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Not visible, but Chris indicated that the wheel was submerged.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed but could not fully inspect because of flowing water. See Section IV, item 3.

iii. Visible condition of outlet channel: A fallen tree was observed in front of the outlet pipe. This should be removed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? None observed

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? Yes, bare areas were observed all along the earthen emergency spillway. These areas must be reseeded or otherwise stabilized to prevent further erosion.

iv. Any visible deterioration of structure's crest? Yes, bare areas were observed in the earthen emergency spillway; see item iii above. Holes were also observed in the bottom of the corrugated metal pipe that runs under the emergency spillway. See Section IV, item 2.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No. An updated EAP must be provided to the Department on or before 5/25/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The lake should be drained enough to allow for evaluation of this area to determine the cause of the tilting. Documentation of this evaluation should be submitted to the Department on or before 6/24/14. If any repairs are necessary, then you must contact John Poole (803-898-4212) in the Permitting Section in Columbia to determine whether permits are needed for the repairs.

2. Holes were observed in the portion of the pipe in the lake; however, the entire length of this pipe should be observed to determine if there is damage to the pipe along its entire length. A camera or other device will be necessary to evaluate the condition of the pipe. You may want to employ a qualified, licensed SC professional engineer to supervise the evaluation. Damage to the pipe must be repaired. Documentation of the evaluation must be submitted to the Department on or before 6/24/14. Contact John Poole (SCDHEC Dams and Reservoir Permitting, 803-898-4212) to determine whether permits are needed for this repair.

3. Please note that, while the camera or other device is onsite to evaluate the damage to the pipe under the emergency spillway, you may want to have the primary outlet pipe evaluated to determine if there is any damage to it.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 3984 & Hazard Class 1

B. Name of Dam: Lake Lanier

C. Inspection Date (10 / 14 /20 13) & Time: 11:00 a.m.

D. Date of Last Inspection: (09 / 13 / 2011)

E. Location-County/City: Greenville / Tryon, NC

F. EQC Regional Office: Upstate/ Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Town of Tryon/ Carol Lawrence

I. Contact Person (if different from above): Greg McCool (Water Plant Superintendent; wplant@windstream.net)

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (828) 859 9525 (Tryon)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Drawer K (Tryon); PO Box 1339 (Lawrence)

Address 2 (optional)

City Tryon, State NC Zip Code 28782 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road and bridge over spillway

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? Some cracks were observed in the road. Monitor these cracks to ensure that the cracks are not widening.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition near the pump station. The tree stumps on the right side (mentioned in the previous report) were still in place. These stumps should be removed and soil replaced and compacted. See Section III.D.iii for information about the tree in front of Bay 4 (left-most bay).

ii. Animal activity observed? Holes, possibly animal burrows, were observed. These areas must be filled and compacted and monitored on a regular basis to ensure that no burrowing animals are present.

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? None observed

v. Settlement or cracks visible in slope? Some soft spots were observed on the upstream slope. These areas must be filled and compacted.

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation on the downstream slope, including weeds, small trees, shrubs, brush, kudzu, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. Numerous large trees were also observed. See Section IV, items 1, 2, and 3.

ii. Animal activity observed? Holes, possibly animal burrows, were observed near the 3rd power pole and elsewhere on the right side of the dam. These areas need to be filled and compacted and monitored on a regular basis to ensure that no burrowing animals are present. The entire slope could not be inspected because of thick vegetation.

iii. Any obvious alterations or repairs made? Could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? Some erosion was observed on the right slope (approximately 40' from the 3rd power pole) and on the on the left abutment near an existing corrugated metal outlet pipe. However, the entire slope could not be inspected because of thick vegetation. See Section IV, item 4.

v. Settlement or cracks visible in slope? Could not fully inspect because of thick vegetation

vi. Toe drains flowing? Could not fully inspect because of thick vegetation. See item III.C.vii.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: An area of seepage that was actively flowing was observed along the toe on the right (east) side, near the outlet pipes from the existing drainage blanket. Flows were coming from under the pipes, not through them. See Section IV, item 5.

D. Primary Spillway

i. Any visible deterioration of structure? Yes, there is visible deterioration of the concrete in many places along the face of the spillway. Wet areas were observed along the bottom of the right wing wall. These areas should be monitored on a regular basis to ensure that the deterioration does not worsen.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? Soil and debris has accumulated in Bay 4 (left-most bay). Follow the recommendations in the engineering report/ condition assessment dated 3/30/12 regarding this debris, including removal of the tree upstream of this bay.

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Not applicable

ii. Describe any deflection or damage observed to the pipe: Not applicable

iii. Visible condition of outlet channel: Many trees and debris were observed in the channel just beyond the end of the spillway and along the left wing wall. The trees and debris should be removed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No emergency spillway; concrete spillway is the primary spillway.

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? Not applicable

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No. An updated EAP must be submitted on or before April 9, 2014.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

3. Follow the recommendations in the engineering report/ condition assessment dated 3/30/12 to determine the size of the trees that should be cut. The Department recommends that you proceed with a phased approach and that you begin with trees with diameters of 6" and smaller. Then, you should have a qualified, licensed S.C. engineer re-evaluate the situation to determine whether it is still safe and recommended to remove trees with diameters between 6" and 8" and to leave trees with diameters larger than 8". The Department recommends varnishing the stumps as the trees are removed to prevent the root system from rotting.

4. Regarding the erosion on the left abutment, this area must be stabilized immediately. The area must also be carefully monitored to ensure that the erosion does not progress back toward the reservoir and that flowing water is not observed in this area. This could affect the structural stability of the dam.

5. A plan must be must developed to measure seepage (flow rate and turbidity) in this area at least monthly. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4007 & Hazard Class 1

B. Name of Dam: Lake Robinson

C. Inspection Date (03 / 27 /20 14) & Time: 1:30 p.m.

D. Date of Last Inspection: (03 / 28 /2012)

E. Location-County/City: Greenville / Greer

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Greer Commission of Public Works

I. Contact Person (if different from above): Jeffrey Tuttle or Chuck Barnes

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864-449-4582 (Chuck Barnes)

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 216

Address 2 (optional)

City Greer, State SC Zip Code 29652 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? The earthen dike portion was covered in grass in good condition. Bare areas were observed on the earthen dam, both sides. Re-seed these areas and monitor to ensure grass is established.

ii. Animal activity observed? None observed on the earthen dike or dam

iii. Any obvious alteration or repairs made? None observed on the earthen dike or dam

iv. Erosion noticed on crest? Monitor the bare areas to ensure that erosion does not occur.

v. Any visible settlement, misalignment or cracks? None observed on the earthen dike or dam

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass and riprap were observed for the earthen dike. Monitor the area where the trees had been removed from the dike and compact as they decay. Grass was observed for the earthen dam. See Section IV, item 1.

ii. Animal activity observed? None observed on the earthen dike or earthen dam

iii. Any obvious alterations or repairs made? None observed on the earthen dike or earthen dam

iv. Erosion observed on upstream slope? Erosion was beginning in the bare areas on the right side of the earthen dam. These areas must be repaired.

v. Settlement or cracks visible in slope? None observed on the earthen dike or earthen dam

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass was observed for the earthen dike. Grass and weeds were observed for the majority of the slope of the earthen dam. The vegetation on the left side needs to be cut and removed. See Section IV, item 2.

ii. Animal activity observed? None observed on the earthen dike. Fresh holes were observed on the left downstream slope. Continue monitoring the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary.

iii. Any obvious alterations or repairs made? None observed on the earthen dike or earthen dam

iv. Erosion observed on down stream slope? Erosion was beginning in the small bare areas on the earthen dike and in the bare areas on the earthen dam. These areas must be repaired.

v. Settlement or cracks visible in slope? None were observed on the earthen dike. Settlement/ sloughing was observed on the left side, approximately 50' from the end of the wall and 200' from the wall. These areas must be monitored and repaired.

vi. Toe drains flowing? The toe drain on the left side was not flowing. The toe drain on the right side was flowing and needs to be cleaned out.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, areas of actively flowing seepage were observed on the right side next to the 48" pipe (multiple places, noted in past reports) and on the left side at the end of the wall. A plan must be developed to measure seepage (flow rate and turbidity) in these areas at least monthly. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? Yes, some visible deterioration of the concrete (cracks etc.) was observed. However, a large portion of the structure could not be inspected. See Section IV, item 4.

ii. Is there an obvious need to repair or replace trash rack? Not applicable

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Yes, according to Mr. Barnes, it is operated at least once/ year.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? No outlet pipe, only concrete spillway

ii. Describe any deflection or damage observed to the pipe: Not applicable

iii. Visible condition of outlet channel: Good, little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No emergency spillway, concrete structure was evaluated below

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? None observed but could not fully inspect because of flowing water

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None observed but could not fully inspect because of flowing water

vi. If applicable, any visible leakage below concrete spillway? Could not inspect because of flowing water

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from crest of dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/3/14

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Bare areas were observed on the earthen dike, just above the riprap, and on the earthen dam throughout the upstream slope on the right side, possibly where equipment tracks were made. Re-seed these areas and monitor to ensure grass is established.

2. Bare areas were also observed on the earthen dam on the right side above the riprap near the wall and on the left side behind the wall. Re-seed and monitor to ensure grass is established.

3. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement.

4. A thorough inspection by a qualified South Carolina licensed professional engineer is recommended because of the hazard classification and type of structure.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4033 & Hazard Class 1

B. Name of Dam: Strom Dam

C. Inspection Date (04 / 24 /20 15) & Time: 11:00 a.m.

D. Date of Last Inspection: (10 / 01 / 2013)

E. Location-County/City: Greenville / Marietta

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Nancy Strom

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (352-322-5628 (mobile)

K. Dam Owner's or Contact Person's mailing address:

Address 1 220 Silver Creek Road

Address 2 (optional)

City Greer, State SC Zip Code 29650 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and weeds were observed. A few bare areas were observed. These areas should be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed. The owner was in the process of removing trees and woody vegetation during the inspection and debris piles were observed. These debris piles must be removed.

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? The thick vegetation, including weeds, small trees, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. See Section IV, item 1.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation. The owner was in the process of removing trees and woody vegetation during the inspection and debris piles were observed. These debris piles must be removed.

iv. Erosion observed on upstream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? The thick vegetation, including weeds, small trees, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. Large trees (diameter >4") were also observed. See Section IV, items 1 and 2.

ii. Animal activity observed? Could not fully inspect due to thick vegetation

iii. Any obvious alterations or repairs made? Could not fully inspect due to thick vegetation. The owner was in the process of removing trees and woody vegetation during the inspection and debris piles were observed. These debris piles must be removed.

iv. Erosion observed on down stream slope? Could not fully inspect due to thick vegetation

v. Settlement or cracks visible in slope? Could not fully inspect due to thick vegetation

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Could not fully inspect due to thick vegetation

D. Primary Spillway

i. Any visible deterioration of structure? The primary spillway had been cut down to 2' above the bottom and was wrapped with hardware cloth to prevent debris from clogging the outlet. An above-ground siphon system was also in place. See Section IV, item 3.

ii. Is there an obvious need to repair or replace trash rack? No, however, wire around outlet structure must be inspected regularly to ensure it does not become clogged and allow the dam to impound water

iii. Any noticeable problems with debris? No

iv. Is valve or gate present? Yes, the valve is currently open to maintain the pond in a drained state.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Could not inspect due to flowing water and thick vegetation

ii. Describe any deflection or damage observed to the pipe: Could not inspect due to flowing water and thick vegetation

iii. Visible condition of outlet channel: Good with little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? The concrete pipe on the left side was observed as the emergency spillway. Some debris was present around the pipe and should be removed.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? Bare areas were observed in the approach and discharge channels. This area should be re-seeded and monitored to ensure grass is established.

iv. Any visible deterioration of structure's crest? The concrete pipe was partially exposed; however, no damage to the pipe was observed.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, updated EAP must be submitted on or before 9/11/15. Current EAP in file is dated 5/20/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

During the inspection, the pond was drained, the valve was open, and the dam was impounding only a few inches of water. According to Ms. Strom, she does not have intentions to refill the pond at this time. Please note that, prior to re-impounding water, a thorough inspection by a qualified South Carolina licensed professional engineer would be required to evaluate the overall condition of the dam and the Department must be notified in writing.

1. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. Prior to re-impounding water and prior to cutting the larger trees, the larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan would need to be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact David Graves at 803-898-4398 to determine whether permits are necessary.

3. According to Ms. Strom, the siphon system is in place as an emergency back-up to drain the lake. The bottom portion of the siphon system had broken apart on the downstream slope. This should be repaired immediately.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4036 & Hazard Class 1

B. Name of Dam: Oolenoy WCD Dam 40 (Table Rock State Park)

C. Inspection Date (2 / 23 /20 15) & Time: 10:45 a.m.

D. Date of Last Inspection: (12 / 6 /2013)

E. Location-County/City: Pickens / Pickens

F. EQC Regional Office: Upstate Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: S.C. Department of Parks, Recreation, & Tourism

I. Contact Person (if different from above): Poll Knowland

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (864) 878 - 9813

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 158 E. Ellison Lane

Address 2 (optional)

City Pickens, State SC Zip Code 29671 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass, weeds, and woody vegetation in good condition were observed.

ii. Animal activity observed? Yes, an animal hole was observed on the right side.

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass, weeds, and woody vegetation in good condition were observed. Small trees and other woody vegetation along the water's edge must be cut and removed.

ii. Animal activity observed? Yes, an animal hole was observed approximately 10' downslope and 50' from the right groin. Monitor the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary. The hole should be filled and compacted.

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? None observed; riprap is in place along the water's edge.

v. Settlement or cracks visible in slope? Sloughing (not active) was observed approximately 15' from the right groin, down near the riprap. Monitor this area to ensure that it does not worsen.

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass, weeds, and woody vegetation in good condition were observed.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? Some of the eroded areas around the outlet pipe noted in the 12/6/13 report were filled with riprap and stone. There are 2 other eroded areas that need to be filled in this area, on the right. Additional stone needs to be added to one of the areas.

iv. Erosion observed on down stream slope? Yes, erosion was observed along the footpath up the dam. This area must be filled and compacted to prevent further erosion. This was noted in the 12/6/13 inspection.

v. Settlement or cracks visible in slope? Some undulations and sloughing were observed throughout the slope. Monitor this area to ensure that it does not worsen. Fill and compact if necessary to prevent erosion.

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: The bottom of the slope was wet; however, this may have been due to rain the day before the inspection. Monitor this area to ensure that water is not flowing or ponding in this location during dry weather.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? No. A small amount of debris was observed. This should be removed as part of regular maintenance.

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? Yes, according to Mr. Knowland, it is operated every other year.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed but could not fully inspect because of flowing water

ii. Describe any deflection or damage observed to the pipe: None observed but could not fully inspect because of flowing water

iii. Visible condition of outlet channel: Good. No erosion was observed.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? A small cluster of trees was observed in the approach channel and small trees were present of the left and right slopes of the spillway. These should be cut and removed.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed

iv. Any visible deterioration of structure's crest? Small bare areas were observed on the right side. Reseed and monitor to ensure vegetation is re-established.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 8/1/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

Since the previous inspection, significant improvement was made with regards to the management of vegetation on the dam.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4037 & Hazard Class S1

B. Name of Dam: Houck Pond

C. Inspection Date (04 / 10 /20 14) & Time: 11:50 a.m.

D. Date of Last Inspection: (02 / 15 /2012)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Gary Bruce Houck

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 322

Address 2 (optional)

City Travelers Rest, State SC Zip Code 29690 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass in good condition was observed.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed. The upstream slope could not be fully inspected due to the thick vegetation. See Section IV, item 1.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on upstream slope? Could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? Could not fully inspect because of thick vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition was observed on the right side and middle of the dam. Ivy was observed on the rock portion at the bottom of the dam; this should be cut and removed. Thick vegetation was observed on the left side. See Section IV, items 1, 2, and 3.

ii. Animal activity observed? Yes, possible animal holes were observed all over the face of the dam. Monitor the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary.

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on down stream slope? Yes, a large, fairly deep hole (2' x 4') was observed on the left side, approximately 10' down slope, near the overflow pipe and the groin. See Section IV, item 4.

v. Settlement or cracks visible in slope? Yes, a crack was observed in the middle of the dam, extending approximately 10' down slope and 30' to the right. See Section IV, item 4.

vi. Toe drains flowing? The toe drain to the left of the outlet pipe was not flowing.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None observed

D. Primary Spillway

i. Any visible deterioration of structure? Could not inspect because of thick vegetation and water surface elevation

ii. Is there an obvious need to repair or replace trash rack? Yes, the trash rack appeared to be very rusty and debris was observed inside the trash rack.

iii. Any noticeable problems with debris? Debris was observed collected on and inside the trash rack. The debris must be removed. Monitor the outlet structure regularly for the presence of debris.

iv. Is valve or gate present? None observed

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Could not fully inspect because of flowing water

ii. Describe any deflection or damage observed to the pipe: Could not fully inspect because of flowing water

iii. Visible condition of outlet channel: Good condition with minimal erosion

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? The metal pipe that connects to a corrugated plastic pipe on the left was observed as the auxiliary spillway. No obstructions to flow were observed; however, no trash rack was in place on the end of the pipe. See Section IV, item 5.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? Yes, erosion was observed at the outlet of the corrugated plastic pipe. Repairs must be made to prevent further erosion. See Section IV, items 4 and 6.

iv. Any visible deterioration of structure's crest? Not applicable

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from the crest of the dam

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/20/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

2. Thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

3. Large trees were observed on the left side, near the groin. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified S.C. licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4099 & Hazard Class 1

B. Name of Dam: North Stone Lake

C. Inspection Date (12 / 16 /20 13) & Time: 11:45 a.m.

D. Date of Last Inspection: (12 / 09 / 2011)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: North Stone Lake Association (note that county records list as Stone Lake Association, which is a separate entity)

I. Contact Person (if different from above): Russell Batson

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864) 320 - 8062

K. Dam Owner's or Contact Person's mailing address:

Address 1 22 Stono Drive

Address 2 (optional)

City Greenville, State SC Zip Code 29609 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Road across crest. Sewer line in the road. It would be prudent to have the sewer line TVed periodically to ensure that there is no deterioration to the sewer line that could affect the dam.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Grass in good condition was observed on the majority of the slope. A few bare areas were observed; these areas should be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alterations or repairs made? None observed

iv. Erosion observed on upstream slope? Erosion was observed along the water's edge, especially at the pipe outlet into the lake on the left. Monitor these areas to ensure that the erosion does not worsen. If it does, then slope protection along the water's edge may be needed.

v. Settlement or cracks visible in slope? None observed

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. See Section IV, items 2, 3, and 4.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Seepage may be entering the storm drain system on the right side of the dam. This should be monitored regularly to ensure that the flows do not increase and become turbid. This would indicate a very serious situation and the Department should be notified immediately.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? None observed

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? None seen

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed but could not access the outlet because of water backed up along the toe of the slope and into the outlet pipe.

ii. Describe any deflection or damage observed to the pipe: None observed but could not access the outlet because of water backed up along the toe of the slope and into the outlet pipe.

iii. Visible condition of outlet channel: Water was observed backing up onto the toe of the slope, into the outlet pipe. This issue must be evaluated by a qualified SC licensed professional engineer to determine whether the backed-up water is causing any concerns with the safe operation of the dam.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? No emergency spillway was observed

ii. Animal activity observed? Not applicable

iii. Any noticeable deterioration in the approach or discharge channel? Not applicable

iv. Any visible deterioration of structure's crest? Not applicable

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted by 10/15/14.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. A storm drain that was covered with debris was observed on the crest, in the road. Make sure this is uncovered and maintained in good working order so that water does not pool on the crest.

2. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

3. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam.

4. The larger trees must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4175 & Hazard Class S1

B. Name of Dam: Stiwinter Pond

C. Inspection Date (04 / 02 /20 14) & Time: 8:55 a.m.

D. Date of Last Inspection: (02 / 15 / 2012)

E. Location-County/City: Pickens / Pickens

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Donald McGill; Sandra Galloway

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864-313-8816 (Donald McGill))

K. Dam Owner's or Contact Person's mailing address:

Address 1 160 Turtle Creek Road (McGill); 214 Anthony Road (Galloway)

Address 2 (optional)

City Pickens, State SC Zip Code 29671 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and weeds were observed on the majority of the crest and should be cut. A few bare areas were observed near the fence, on the right side. These areas should be reseeded.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, brush, and other deleterious vegetation, must be cut and removed. See Section IV, item 1.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on upstream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? Some rills and sloughing were observed; however, they were covered by pine needles and did not appear to be current. These areas should be repaired to prevent further erosion. Monitor these areas to ensure the erosion does not worsen.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? None observed but could not fully inspect because of thick vegetation

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None observed but could not fully inspect because of thick vegetation

D. Primary Spillway

i. Any visible deterioration of structure? The top of the riser or trash rack appeared to be slightly tilted. This condition should be monitored regularly to ensure that it does not worsen. If it changes, then the lake level should be lowered immediately to investigate the problem. See Section IV, item 3.

ii. Is there an obvious need to repair or replace trash rack? None observed

iii. Any noticeable problems with debris? None observed

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: None observed

iii. Visible condition of outlet channel: Good condition with little to no erosion observed. Some debris was observed at the end of the outlet pipe, but Mr. McGill removed it during the inspection. Monitor the pipe regularly to ensure that it does not become clogged.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? A fence was in place across the spillway on the left side. This should be removed immediately. It was difficult to determine whether an additional spillway was in place on the right side; if one is in place, then it is full of trees.

ii. Animal activity observed? None observed on the left side. Could not fully inspect because of thick vegetation and lack of access on the right side

iii. Any noticeable deterioration in the approach or discharge channel? None observed on the left side. Could not fully inspect because of thick vegetation and lack of access on the right side

iv. Any visible deterioration of structure's crest? None observed on the left side. Could not fully inspect because of thick vegetation and lack of access on the right side

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None observed from the crest of the dam. If you feel that the classification should be changed because of the downstream residence not being occupied, then you can provide a request and an engineering study supporting that to John Poole with Permitting in Columbia.

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 12/14/14

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. Large trees were observed on the downstream slope. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary.

3. Water was flowing through outlet pipe, but the water surface elevation was below the top of the riser or trash rack. If there is not a larger diameter pipe (acting as a trash rack) in place at the top of the riser, then this may be an indication of severe deterioration of the primary spillway and must be evaluated by a qualified South Carolina licensed professional engineer.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4418 & Hazard Class 1

B. Name of Dam: Charles Laye Dam

C. Inspection Date (12/17/20 14) & Time: 2:15 p.m.

D. Date of Last Inspection: (N/A/ _ _/_ _ _ _)

E. Location-County/City: Greenville / Honea Path

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, John Cobb

H. Owner's Name: Charles Laye

I. Contact Person (if different from above):

J. Dam Owner's or Contact Person's Phone Numbers:

Home (864) 268 - 1794

Office ( ) - -

Other (864) 350 - 6412

K. Dam Owner's or Contact Person's mailing address:

Address 1 19 Gladesworth Drive

Address 2 (optional)

City Greenville, State SC Zip Code 29615 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Grass and weeds in good condition were observed.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? The thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed. Portions of the dam could not be inspected due to the thick vegetation. See Section IV, item 1.

ii. Animal activity observed? Yes, several animal trails were observed. Monitor the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary.

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on upstream slope? Some erosion was observed along the water's edge. Monitor this area to ensure that it does not worsen. If it does, then slope protection along the water's edge may be needed.

v. Settlement or cracks visible in slope? Yes, a depressed area was observed in the middle of the dam. According to the owner, a leak in a pipe joint was found (and repaired) in this area, and the soil around it had washed away. See Section IV, item 2.

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Grass and thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, were observed, and portions of the dam could not be inspected because of this. See Section IV, items 1, 3, and 4.

ii. Animal activity observed? Yes, same as upstream slope

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? A few bare areas were observed. Re-seed these areas and monitor to ensure grass is established to prevent erosion.

v. Settlement or cracks visible in slope? Yes, some sloughing was observed along the animal trail on the right side and throughout the slope but could not fully inspect because of thick vegetation. Monitor these areas to ensure that erosion does not occur. Leveling may be needed if the sloughing worsens.

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, a wet, mushy area was observed between the siphon and the left groin. This area should be monitored regularly to ensure that the water does not become flowing or turbid. This would indicate a very serious situation and the Department should be notified immediately. See Section IV, item 5.

D. Primary Spillway

i. Any visible deterioration of structure? Could not observe because siphon was underwater.

ii. Is there an obvious need to repair or replace trash rack? Could not observe because siphon was underwater; unknown if brush guard is in place

iii. Any noticeable problems with debris? None seen

iv. Is valve or gate present? No

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Could not observe because outlet pipe not flowing

ii. Describe any deflection or damage observed to the pipe: None observed

iii. Visible condition of outlet channel: There was no flowing water in the channel and it was covered with leaves.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Yes, trees were observed in the spillway. See Section IV, item 3 and 4, regarding tree removal.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any noticeable deterioration in the approach or discharge channel? None observed but could not fully inspect because of thick vegetation

iv. Any visible deterioration of structure's crest? None observed but could not fully inspect because of thick vegetation

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Not applicable

vi. If applicable, any visible leakage below concrete spillway? Not applicable

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 4/4/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. This area must be evaluated by a qualified S.C. licensed professional engineer to determine if the leak affected the structural stability of the dam. If the leak did not affect structural stability, then follow the engineer's recommendations to repair this area. If the leak affected the structural stability, then permits may be necessary for the repair; contact John Poole at 803-898-4212 to determine whether permits are necessary.

3. The thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater.

See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4469 & Hazard Class 1

B. Name of Dam: Saluda Lake

C. Inspection Date (06 / 01 /20 15) & Time: 10:00 a.m.

D. Date of Last Inspection: (06 / 19 / 2013)

E. Location-County/City: Greenville / Greenville

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins, David Graves, John Poole

H. Owner's Name: Northbrook Energy LLC

I. Contact Person (if different from above): Glenn Beaumont/ Jeff McCraw

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (480-551-1221 (Glenn)

Other (828-289-6675 (Jeff mobile)

K. Dam Owner's or Contact Person's mailing address:

Address 1 14450 N. Frank Lloyd Wright #210

Address 2 (optional)

City Scottsdale, State AZ Zip Code 85260 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☑ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? None observed, concrete dam structure

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? Not applicable, concrete dam structure

v. Any visible settlement, misalignment or cracks? Deterioration of the concrete was observed on the left side

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Could not inspect upstream slope, concrete dam structure

ii. Animal activity observed? Could not inspect upstream slope, concrete dam structure

iii. Any obvious alterations or repairs made? Could not inspect upstream slope, concrete dam structure. According to Mr. McCraw, since the 6/19/13 inspection, a plate was installed on the upstream face to stop flows through the tunnel near the top of the dam on the right side. See Section IV, item 1.

iv. Erosion observed on upstream slope? Not applicable, concrete dam structure

v. Settlement or cracks visible in slope? Could not inspect upstream slope, concrete dam structure

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Vegetation was observed on the step-downs on the right wall. This vegetation should be cut and removed.

ii. Animal activity observed? None observed but entire slope could not be inspected

iii. Any obvious alterations or repairs made? A plug was installed for turbine 5, and leakage was observed around the entire plug. The entire downstream slope could not be inspected because it was within the building and below the power house. See Section IV, items 2 and 3.

iv. Erosion observed on down stream slope? Deterioration of the concrete walls inside the power house and deterioration of the concrete supports under the powerhouse were observed. Portions of the wall inside were flaking off and turning to dust. See Section IV, items 3 and 4.

v. Settlement or cracks visible in slope? Cracks were observed in the walls (right side next to stairs, on back wall in the corner, left side of back wall from 4th rafter to outer wall, and lower level behind turbines 3, 4, and 5) and floor (near turbine 3) of the power house. See Section IV, item 5.

vi. Toe drains flowing? Flows are discharging from the seepage collection basin on the right side, behind the wall. Erosion was observed in this area. Add a drain structure from this area down to the toe of the slope to prevent further erosion. See Section IV, item 6.

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Seepage was observed through the concrete wall in the power house between turbines 3-5, on the floor between turbines 1-4, and around turbine 5 plug (see item iii above). Staining of the walls, mud on the floor, and flows from mechanical equipment were observed between turbines 2 and 3. See Section IV, item 7.

D. Primary Spillway

i. Any visible deterioration of structure? Deterioration of the concrete along crest of spillway was observed. Leakage was observed through the tunnel near the top on the right side (see item B.iii above). Leakage was observed through the spillway in the middle, approximately 10-15' up from bottom. See Section IV, item 8.

ii. Is there an obvious need to repair or replace trash rack? Not applicable for primary spillway. Could not inspect for intakes.

iii. Any noticeable problems with debris? None observed for the primary spillway. Could not inspect intakes. A log was in place at the bottom of the spillway and should be removed as part of regular maintenance.

iv. Is valve or gate present? Yes, 4 gates were present for the intakes.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Could not observe intake pipes or tailrace.

ii. Describe any deflection or damage observed to the pipe: Could not observe intake pipes or tailrace.

iii. Visible condition of outlet channel: Good with little to no erosion

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? According to Mr. McCraw, the flashboard system (17 gates that open on right side, manually activated) functions as the emergency spillway. However, the Department has no hydraulics and hydrology information related to the flashboards.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? See item D.i above

iv. Any visible deterioration of structure's crest? See item D.i above

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None observed

vi. If applicable, any visible leakage below concrete spillway? Could not observe due to flowing water

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, an updated EAP must be submitted on or before 10/1/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

See attached sheet for comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4562 & Hazard Class 1

B. Name of Dam: Cliffs Valley Dam (Long Shadow Lane)

C. Inspection Date (10 / 24 /20 14) & Time: 1:00 p.m.

D. Date of Last Inspection: (12 / 06 /2012)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Cliffs Valley Community Association (in care of N&H Enterprises)

I. Contact Person (if different from above): Leigh Melsom with N&H Enterprises, Pete Rodgers with Cliffs Valley Community Association

J. Dam Owner's or Contact Person's Phone Numbers:

Home (215)285-8555 (Pete)

Office (864)438-5094 (Leigh)

Other (_ _ _) _ _ _ - _ _ _ _

K. Dam Owner's or Contact Person's mailing address:

Address 1 P.O. Box 5539 (N&H); lmelsom@nhe-inc.com (Leigh); Pete@watkinsrodgers.com (Pete)

Address 2 (optional)

City Greenville, State SC Zip Code 29606 - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☑ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Weeds were observed on the crest. They should be cut to allow for regular inspections.

ii. Animal activity observed? None observed

iii. Any obvious alteration or repairs made? None observed

iv. Erosion noticed on crest? None observed

v. Any visible settlement, misalignment or cracks? None observed

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Shrubs were observed along the shoreline. Those must be cut and removed immediately. Thick vegetation, including weeds, shrubs, brush, and other deleterious vegetation, was observed. See Section IV, item 1.

ii. Animal activity observed? Yes, animal trails were observed. Monitor the dam regularly to ensure that harmful animal species are not present. Remove using legal means, as necessary. Note that thick vegetation prevented a complete inspection.

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on upstream slope? None observed but could not fully inspect because of thick vegetation. Small bare areas were observed. Monitor these areas and re-seed as necessary.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, was observed. See Section IV, item 1. As small trees are removed, you may need to treat the stumps to prevent regrowth on the stump.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on down stream slope? Yes, sloughing was observed in the area of seepage described in item C.vii below, along the left groin, and in various locations throughout the downstream slope. Bare/ sloughing areas must be repaired. See Section IV, item 2.

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, a large area of seepage (standing water) was observed from 10' above the outlet pipe down to the toe and across to the left groin. This area appears to be larger than it was during the 12/6/2012 inspection. Seepage was also observed to the left of the end of the outlet pipe. See Section IV, item 3.

D. Primary Spillway

i. Any visible deterioration of structure? None observed

ii. Is there an obvious need to repair or replace trash rack? Yes, a hole was observed in the side of the trash rack. This hole must be repaired.

iii. Any noticeable problems with debris? Vegetation was observed growing out of the spillway and must be removed.

iv. Is valve or gate present? Yes

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None observed

ii. Describe any deflection or damage observed to the pipe: Minor deflection was observed at one of the joints. Monitor this situation to ensure that it does not worsen.

iii. Visible condition of outlet channel: Good, little to no erosion observed

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Thick vegetation was observed at the entrance. See Section IV, item 1.

ii. Animal activity observed? None observed

iii. Any noticeable deterioration in the approach or discharge channel? None observed but could not fully inspect because of thick vegetation. A layer of pea gravel and other debris was in place over the grouted portion of the spillway. This could prevent problems with the spillway going undetected.

iv. Any visible deterioration of structure's crest? None observed; see item iii above.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None observed; unknown if rebar is present.

vi. If applicable, any visible leakage below concrete spillway? None observed

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None observed from crest

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam.

2. Contact John Poole at 803-898-4212 to determine whether permits are necessary for the repairs in this area.

3. The area of seepage to the left of the end of the outlet pipe could not be accessed for further inspection because of thick vegetation. If this area of seepage is flowing, then a plan must be developed to measure seepage (flow rate and turbidity) in these areas at least monthly. Submit the plan to the Permitting Section in Columbia for approval (John Poole, SCDHEC Dams and Reservoir Permitting, 2600 Bull Street, Columbia, SC 29201). The seepage measurements must be recorded at least monthly and should be correlated to the stage in the reservoir at the time of the measurement. The area above and to the left of the outlet pipe with standing water should be monitored regularly to ensure that the water does not become flowing and turbid. This would indicate a very serious situation and the Department should be notified immediately.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

D H E C
PROMOTE PROTECT PROSPER

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: **D** 4886 & Hazard Class 1

B. Name of Dam: Anne Parks Short Branch

C. Inspection Date (06 / 23 /20 15) & Time: 11:35 a.m.

D. Date of Last Inspection: (10 / 24 /2014)

E. Location-County/City: Greenville / Travelers Rest

F. EQC Regional Office: Upstate EQC Greenville

G. Inspector's Name: Melissa Dawkins

H. Owner's Name: Anne McKoy Parks Trust

I. Contact Person (if different from above): Mac Parks

J. Dam Owner's or Contact Person's Phone Numbers:

Home (_ _ _) _ _ _ - _ _ _ _

Office (_ _ _) _ _ _ - _ _ _ _

Other (864) 915 _ - 3696 _

K. Dam Owner's or Contact Person's mailing address:

Address 1 106 Five Gait Turn

Address 2 (optional)_____

City Simpsonville, State sc Zip Code 29681 _ - _ _ _ _

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

a) Satisfactory ☐ b) Fair ☐ c) Poor ☐ d) Unsatisfactory ☑ e) Not Rated ☐

Section III (Dam Inspection Checklist)

A. Dam Crest

i. Vegetation (grass, trees weeds)? Bare areas were observed on the right side. Re-seed these areas and monitor to ensure grass is established. Thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, was observed on the left side. See Section IV, items 1 and 2.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alteration or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion noticed on crest? Yes, some erosion was observed in the bare areas. Re-seed these areas and monitor to ensure grass is established. The left side could not be observed because of thick vegetation.

v. Any visible settlement, misalignment or cracks? None observed but could not fully inspect because of thick vegetation

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Same as crest above with thick vegetation also on the right side. Tree stumps were observed and must be monitored as they decay to ensure that the former root paths are not creating seepage paths. The areas around the stumps should be compacted and filled with new soil, as necessary.

ii. Animal activity observed? None observed but could not fully inspect because of thick vegetation

iii. Any obvious alterations or repairs made? None observed but could not fully inspect because of thick vegetation

iv. Erosion observed on upstream slope? None observed but could not fully inspect because of thick vegetation

v. Settlement or cracks visible in slope? None observed but could not fully inspect because of thick vegetation

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, was observed. Debris piles (logs, branches, etc.) were observed on the right side; these must be removed. See Section IV, items 1 and 2.

ii. Animal activity observed? A possible animal trail along temporary siphon was observed. The rest of the slope was inaccessible due to thick vegetation.

iii. Any obvious alterations or repairs made? None observed however majority of slope was inaccessible due to thick vegetation

iv. Erosion observed on down stream slope? A large area of erosion and fallen trees were observed on 10/24/14 approximately 40' right of the primary outlet pipe, at the outlet of one of the previously used 4" siphons (no longer in place). This area was inaccessible on 6/23/15. See Section IV, item 3.

v. Settlement or cracks visible in slope? Undulations were observed around the primary outlet pipe on 6/23/15 and entire slope on 10/24/14 (area was inaccessible on 6/23/15). These areas must be monitored regularly to ensure that the possible settlement is not worsening.

vi. Toe drains flowing? None seen

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Actively flowing seepage was observed on 10/24/14 approximately 40' right of the outlet pipe, at the outlet of one of the previously used 4" siphons. Standing water was observed on 10/24/14 approximately 60' left of the outlet pipe. These areas were inaccessible on 6/23/15. See Section IV, item 4.

D. Primary Spillway

i. Any visible deterioration of structure? Yes, the riser was full of debris; the bottom of the structure was not visible. During the inspection, the water level was approximately 3-4' below the bottom of the 8" siphon. No deterioration of the 8" siphon pipe was observed. See Section IV, item 5.

ii. Is there an obvious need to repair or replace trash rack? No trash rack in place for the riser. Could not observe the end of the 8" siphon because it was under water.

iii. Any noticeable problems with debris? The riser was full of debris. No problems with debris were observed for the 8" siphon pipe.

iv. Is valve or gate present? Yes, but the stem was rusted through rendering it inoperable.

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? Yes, water was observed flowing out of the bottom of the outlet pipe. The riser and outlet pipe must be inspected using a camera or other method to view the inside of the pipes. This is not necessary if plans are submitted to remove the dam.

ii. Describe any deflection or damage observed to the pipe: Rust was observed at the end of the outlet pipe and sections of the pipe appeared to have fallen off in the past.

iii. Visible condition of outlet channel: Little to no erosion was observed; however, pockets of sediment were observed. Monitor these areas to ensure that no additional sediment accumulation occurs.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? Yes, thick vegetation, including weeds, trees, shrubs, brush, and other deleterious vegetation, were observed. Fallen trees and a beaver dam were also observed. See Section IV, items 1 and 2.

ii. Animal activity observed? Yes, trees that had been recently cut by beavers were observed.

iii. Any noticeable deterioration in the approach or discharge channel? Could not fully inspect approach channel because of thick vegetation. Significant, worsening erosion of the discharge portion and deterioration of the concrete portion of the spillway were observed. See Section IV, item 3.

iv. Any visible deterioration of structure's crest? Significant, worsening erosion of the crest and deterioration of the concrete portion of the spillway were observed. See Section IV, item 3.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? Yes, portions of the concrete spillway were hanging down above the eroded area.

vi. If applicable, any visible leakage below concrete spillway? None observed

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None observed

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No, EAP must be submitted on or before 7/21/15.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

1. The thick vegetation, including weeds, small trees, shrubs, brush, and other deleterious vegetation, must be cut and removed from the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater. Portions of the dam could not be inspected due to the thick vegetation. The vegetation must remain at a manageable level so that you can perform complete inspections of the dam and associated structures on a regular basis to ensure safe operation of the dam. Once the thick vegetation has been removed, an appropriate ground cover must be established. Grass is the ideal ground cover for a dam. This is not required if a permit application and plans are being submitted to remove the dam.

2. Large trees were observed on the crest, upstream and downstream slopes, and in the emergency spillway. The larger trees (on the entire dam and extending one-half the height of the dam beyond the toe or 25' beyond the toe, whichever is greater) must be evaluated by a qualified South Carolina licensed professional engineer to determine if they should be removed. A tree management plan must be developed to address the long-term plans for tree removal. Permits may be necessary for removal of the large trees; contact John Poole at 803-898-4212 to determine whether permits are necessary. This is not required if a permit application and plans are being submitted to remove the dam.

***See attached sheet for additional comments.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations – DHEC 2604 R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

A) Dam Number; Enter the Dam's inventory number.
B) Name of Dam; Enter the common name of dam found within EFIS.
C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
G) Inspector's Name: Enter the name of the person performing the inspection.
H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations
for dams or tolerable risk guidelines.

b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector though the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.